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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/804,499	03/12/2001	Yoshitaka Yokoyama	NIM-01301	1359

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08/22/2002

Patent Group
Hutchins, Wheeler & Dittmar
101 Federal Street
Boston, MA 02110

EXAMINER

NGUYEN, JOSEPH H

ART UNIT PAPER NUMBER

2815

DATE MAILED: 08/22/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/804,499

Applicant(s)

YOKOYAMA, YOSHITAKA

Examiner

Joseph Nguyen

Art Unit

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-- *Th MAILING DATE of this communication app ars on th cover she t with the correspondence addr ss --*

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 March 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____ 6) ☐ Other: ____

DETAILED ACTION

Specification

The abstract of the disclosure is objected to because it should contain a single paragraph. Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

Claims 1-3, 5-7, 9, 13-15, 17 are rejected under 35 U.S.C. 102(e) as being anticipated by Stayt, Jr. et al

Regarding claim 1, Stayt, Jr. et al. discloses on figure 4 the wavelength stabilized laser module comprising a semiconductor laser 111; a temperature calibrating unit 190 to calibrate a temperature of said semiconductor laser; a converting unit 301 to convert light emitted from said semiconductor laser to parallel luminous flux; a first photoelectric converting unit 541 to receive a part of said parallel luminous flux and to convert it to an electric signal; a filter 331 to receive a part of said parallel luminous flux and to continuously change its transmittance depending on wavelengths of said parallel luminous flux; a second photoelectric converting unit 441 to receive light transmitted

through said filter 331 and to convert it to an electric signal; and wherein a control signal to be used for stabilization obtained by computations of said electric signal fed from said first photoelectric converting unit and said second photoelectric converting unit, is fed back to said semiconductor laser and/or said temperature calibrating unit so that said semiconductor laser is able to stably emit laser light having a reference wavelength to be used as a target for stabilization of wavelengths.

Regarding claim 2, Stayt, Jr. et al. discloses on figure 4 said first photoelectric converting unit 541 and said second photoelectric converting unit 441 are so configured as to receive backward emitted light from said semiconductor laser.

Regarding claim 3, Stayt, Jr. et al. discloses on figure 4 said converting unit 301 to convert light emitted from said semiconductor laser to said parallel luminous flux it a lens and wherein one part of said single parallel luminous flux transmitted through said lens is incident on said first photoelectric converting unit 541 and another part of said parallel flux is incident on said filter 331.

Regarding claim 5, Stayt, Jr. et al. discloses on figure 4 said filter 331 has a transmittance characteristic in which transmittance of said filter becomes high or low monotonically depending on wavelengths within a band of wavelengths containing said reference wavelength.

Regarding claim 6, Stayt, Jr. et al. discloses on figure 4 said filter 331 is able to change by adjusting an angle by adjusting an angle of incidence, a gradient of changes in transmittance which changes depending on wavelengths.

Regarding claim 7, Stayt, Jr. et al. discloses on figure 4 said filter 331 has a unimodal transmission characteristic in which transmittance of said filter becomes maximum and minimum in a band of wavelength not containing said reference wavelength.

Regarding claim 9, Stayt, Jr. et al. disclose on figure 4 said filter is an etalon type filter exhibiting a transmittance period in which transmittance of said filter becomes maximum and minimum repeatedly at a constant interval or wavelengths.

Regarding claim 13, Stayt, Jr. et al. discloses on figure 4 said filter 331 is fixed to said second photoelectric converting unit 441.

Regarding claim 14, Stayt, Jr. et al. discloses on figure 4 said filter 331 is formed on a light-receiving surface of said second photoelectric converting unit 441. Note that the term "by coating method" is merely the product by process and therefore not given patentable weight.

Regarding claim 15, Stayt, Jr. et al. discloses on figure 4 said first photoelectric converting unit 441 and said second photoelectric converting unit 541 are placed in parallel on a holding substrate and make up an array shaped optical detector.

Regarding claim 17, Stayt, Jr. et al. disclose on figure 4 said semiconductor laser 111 has a configuration of a device integrated with an electro-absorption type semiconductor optical modulator 321.

Claims 1-3, 5-7, 9, 11-15, 17 are rejected under 35 U.S.C. 102(e) as being anticipated by Broutin et al.

Regarding claim 1, Broutin et al discloses on figure 1 the wavelength stabilized laser module comprising a semiconductor laser 110; a temperature calibrating unit 120 to calibrate a temperature of said semiconductor laser; a converting unit 160 to convert light emitted from said semiconductor laser to parallel luminous flux; a first photoelectric converting unit PD1 to receive a part of said parallel luminous flux and to convert it to an electric signal; a filter 190 to receive a part of said parallel luminous flux and to continuously change its transmittance depending on wavelengths of said parallel luminous flux; a second photoelectric converting unit PD2 to receive light transmitted through said filter 190 and to convert it to an electric signal; and wherein a control signal to be used for stabilization obtained by computations of said electric signal fed from said first photoelectric converting unit and said second photoelectric converting unit, is fed back to said semiconductor laser and/or said temperature calibrating unit so that said semiconductor laser is able to stably emit laser light having a reference wavelength to be used as a target for stabilization of wavelengths.

Regarding claims 2-3, 5-7, 9, 14-15, 17, Broutin et al discloses on figure 1 all the structure set forth in claims 2-3, 5-7, 9, 14-15, 17.

Regarding claim 11, Broutin et al discloses on figure 1 said filter 190 is made up of a transparent material (col. 2, lines 31-33) having reflectivity being higher than that of silica glass.

Regarding claim 12, Broutin et al discloses on figure 1 said transparent material is a silicon-based material.

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The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Stayt, Jr. et al or Broutin et al as applied to claim 1 above.

Regarding claim 4, Stayt, Jr. et al or Broutin et al discloses substantially all the structure set forth in the claimed invention except a degree of parallelization of said parallel luminous flux being within ± 2 degrees. However, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify Stayt, Jr. et al or Broutin et al by having a degree of parallelization of said parallel luminous flux being within ± 2 degrees for the purpose of improving the output of a laser device, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Stayt, Jr. et al or Broutin et al as applied to claim 1 above and further in view of Alphonse.

Regarding claim 8, Stayt, Jr. et al or Broutin et al discloses substantially all the structure set forth in the claimed invention except said filter being a multiplayer filter made up of dielectric multilayers formed on a transparent substrate. However, Alphonse discloses that the filter being a multiplayer filter made up of dielectric multilayers formed

on a transparent substrate (col. 4, lines 13-26). In view of such teaching, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Stayt, Jr. et al or Broutin et al by having said filter being a multiplayer filter made up of dielectric multilayers formed on a transparent substrate for the purpose of improving the output of a laser device.

Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Stayt, Jr. et al or Broutin et al and Alphonse as applied to claim 9 above.

Regarding claim 10, Stayt, Jr. et al or Broutin et al and Alphonse disclose substantially all the structure set forth in the claimed invention except an equation $D = (1 - T_{\text{etalon}} / T_{\text{LD}}) \times D_0$ However, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify Stayt, Jr. et al or Broutin et al and Alphonse by having an equation $D = (1 - T_{\text{etalon}} / T_{\text{LD}}) \times D_0$ for the purpose of improving the output of a laser device, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Stayt, Jr. et al or Broutin et al as applied to claim 1 above and further in view of Chang-Hasnain et al.

Regarding claim 16, Stayt, Jr. et al or Broutin et al discloses substantially all the structure set forth in the claimed invention except a light-receiving surface of the first

photoelectric converting unit being placed in a tilt manner relative to an optical axis of incident light. However, Chang-Hasnain et al discloses on figure 1 a light-receiving surface of the first photoelectric converting unit 24 being placed in tilt manner relative to an optical axis of incident light. In view of such teaching, it would have been obvious to one of ordinary skill at the time the invention was made to modify Stayt, Jr. et al or Broutin et al by having a light receiving surface of the first photoelectric converting unit being placed in a tilt manner relative to an optical axis of incident light for the purpose of effectively obtaining a monitoring and control assembly for an optical system as taught by Chang-Hasnain et al (col. 3, lines 22-23).

Claims 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stayt, Jr. et al or Broutin et al as applied to claim 1 above and further in view of Ohtsuka et al.

Regarding claim 18, Stayt, Jr. et al or Broutin et al discloses substantially all the structure set forth in the claimed invention except the temperature-calibrating unit being a Peltier device. However, Ohtsuka et al discloses on figure 1 the temperature-calibrating unit 2 being a Peltier device. In view of such teaching, it would be obvious to one of ordinary skill in the art at the time the invention was made to modify Stayt, Jr. et al or Broutin et al by having the temperature calibrating unit being a Peltier device for the purpose of effectively dissipating the heat away from a laser device.

Regarding claim 19, Stayt, Jr. et al or Broutin et al discloses substantially all the structure set forth in the claimed invention except a single case housing. However,

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Ohtsuka et al discloses that a single case housing (col. 1, lines 49-50). In view of such teaching, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Stayt, Jr. et al or Broutin et al by having a single case housing for the purpose of protection of the optical module and heat insulation from the exterior as taught by Ohtsuka et al (col. 1, lines 45-49).

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

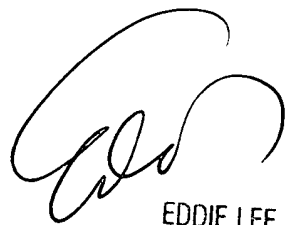
US Patent 5390203 to Miller disclose a laser device.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph Nguyen whose telephone number is (703) 308-1269. The examiner can normally be reached on Monday-Friday, 7:30 am- 4:30 pm

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie Lee can be reached on (703) 308-1690. The fax phone numbers for the organization where this application or proceeding is assigned is (703) 308-7382 for regular communications. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

JN
August 6, 2002



EDDIE LEE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800